



Jan 7, 2010

For Immediate Release

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Release # 0967

U.S. Army's TARDEC to Showcase Alternate Energy Vehicle, Technology at 2010 North American International Auto Show

DETROIT ARSENAL, WARREN, MI — The U.S. Army Tank Automotive Research, Development and Engineering Center (TARDEC) and Michigan's growing defense industry will receive more than \$14 billion in federal funds next year to pursue important military and energy projects, and some of these technologies will headline TARDEC's ground vehicle exhibit at the 2010 North American International Auto Show (NAIAS) in Detroit.

The very latest in hybrid-electric (HE) vehicle technology and military stealth, along with advanced energy and battery developments, will be on display in TARDEC's booth as part of the Michigan Economic Development Corporation's *MEDC ExoXperience* in Michigan Hall at the Cobo Center. TARDEC, the U.S. Army's lead organization for ground vehicle systems integration, engineering and technology development, will display its Clandestine Extended Range Vehicle (CERV), as well as discuss its Autonomous Platform Demonstrator (APD) and Electronic Power Control and Conditioning (EPCC) Module at the show.

"In keeping with the nation's interest in fuel efficiency, renewable power and energy security, TARDEC is fully engaged in ambitious programs that push development of hybrid electric vehicles for U.S. military use," noted TARDEC National Automotive Center (NAC) Director Paul Skalny. "The organization is also pursuing advanced technologies in areas like energy storage, power and thermal management, robotics, survivability and vehicle platform design that not only benefit our Soldiers, but have commercial applications as well."

The *MEDC EcoXperience* will feature a quarter-mile indoor ride-and-drive test track surrounded by landscaped and forested terrain. More than 50,000 NAIAS visitors are expected to visit the display, and a variety of electric vehicles will be provided by various manufacturers, including avant-garde electric vehicle inventions and those from TARDEC.

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TARDEC's exhibit will feature:

- **APD Video:** The APD – which is the Robotic Vehicle Control Architecture's integration platform – tests HE drive, advanced suspension and thermal management systems. It is capable of reaching speeds of up to 50 miles per hour and is helping engineers to develop, integrate and test next-generation unmanned ground vehicle mobility technologies.
- **CERV:** Jointly designed by Quantum Fuel Systems Technologies and TARDEC's NAC, CERV was designed for quick-paced mobility operations such as reconnaissance, surveillance and target designation. CERV pairs the Quantum's new advanced all-wheel-drive diesel HE powertrain with a light-weight chassis to produce a torque rating that exceeds 5,000 foot-pounds. The unit can maintain speeds of 80 miles per hour and climb 60 percent grades – all while reducing fuel consumption by up to 25 percent compared with conventional vehicles of comparable size.
- **EPCC:** Built in partnership with NextEnergy, the EPCC concurrently accepts and manages widely varying electric input alternating current (AC) and direct current (DC) power sources such as solar, wind, diesel and natural gas generation. The EPCC can handle up to eight concurrent inputs of varying voltages, including DC and multiple AC frequencies. The EPCC converts the diverse power inputs into a single, efficient, consistent 50- or 60-hertz AC output, providing portable, high-quality electrical power during critical military operations or disaster relief operations. Its primary benefits are increased fuel efficiency and power management flexibility.

The U.S. Army is the owner and operator of the world's largest fleet of ground vehicles. Among the questions TARDEC is addressing through HE and alternate fuels and energy programs are:

- If this technology was successfully imbedded and the necessary logistics and distribution issues addressed, how many fewer military vehicles would be hauling fuel?
- As fuel consumption is reduced and military vehicles use on-board renewable energy capabilities, how many less soldiers would be on the road delivering fuel and at risk from insurgent attack?
- How much longer could troops operate in austere environments if conventional fuel wasn't the challenge?

For answers to these questions, visit the TARDEC booth at the *MEDC ExoXperience* in Michigan Hall at the Cobo Center.

Media Advisory



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Photos: One image is available for use with this release. Caption information follows. To download photos, go to www.tardec.info/pressreleases/.

CERV.jpg

The Clandestine Extended Range Vehicle (CERV) is the newest hybrid electric diesel vehicle being tested by TARDEC. Jointly developed by TARDEC's National Automotive Center (NAC) and Quantum Fuel Systems Technologies Worldwide, Inc., the CERV is designed for fast-paced mobility operations including reconnaissance, surveillance and target designation. It can reach speeds of up to 80 miles per hour and ascend grades of up to 60 percent. (U.S. Army TARDEC photo by William Dowell)

ABOUT TARDEC

Headquartered at the Detroit Arsenal in Warren, MI, TARDEC is the Nation's laboratory for advanced military automotive technology and serves as the Ground Systems Integrator for all DOD manned and unmanned ground vehicle systems. With roots dating back to the World War II era, TARDEC is a full life-cycle, systems engineering support provider-of-first-choice for all DOD ground combat and combat support weapons, equipment and vehicle systems. TARDEC develops and integrates the right technology solutions to improve Current Force effectiveness and provide superior capabilities for Future Force integration. TARDEC's technical, scientific and engineering staff lead cutting-edge research and development in Ground Systems Survivability; Power and Mobility; Intelligent Ground Systems; Force Projection; and Vehicle Electronics and Architecture. TARDEC is a major research, development and engineering center for RDECOM and partner in the TACOM LCMC.

ABOUT NAC

The NAC is the Army's official link to commercial industry, academia and other government agencies in developing dual-use automotive technologies that meet the needs of both the defense and commercial industry.

The NAC leverages government, commercial industry and academia research and development investments and initiates shared automotive technology programs. Its primary focus is to benefit current and future military ground vehicle systems through performance improvements, service life extensions and reduction in ground vehicle design, manufacturing, production, operation, support and costs.

For more information about TARDEC, visit us at <http://tardec.army.mil>.
You can also follow us on Twitter at http://twitter.com/TARDEC_PAO.